

March 2007

CHAPTER 2.3.6.

**INFECTIOUS HYPODERMAL AND
HAEMATOPOIETIC NECROSIS**

Article 2.3.6.1.

For the purposes of the *Aquatic Code*, infectious hypodermal and haematopoietic necrosis (IHHN) means *infection* with infectious hypodermal and haematopoietic necrosis virus (IHHNV). IHHNV is classified as the species *Penaeus stylirostris densovirus* in the genus *Brevidensovirus* in the family *Parvoviridae*.

Methods for conducting surveillance and diagnosis of IHHN are provided in the *Aquatic Manual*.

Article 2.3.6.2.

Scope

The recommendations in this Chapter apply to: giant tiger prawn (*Penaeus monodon*), Pacific white shrimp (*P. vannamei*) and blue shrimp (*P. stylirostris*). These recommendations also apply to any other *susceptible species* referred to in the *Aquatic Manual* when traded internationally.

For the purposes of this Chapter, the terms shrimp and prawn are used interchangeably.

Article 2.3.6.3.

Commodities

1. When authorising the importation or transit of the following *commodities*, the *Competent Authorities* should not require any IHHN related conditions, regardless of the IHHN status of the *exporting country, zone or compartment*.

a) For the species referred to in Article 2.3.6.2. being used for any purpose:

i) commodities treated in a manner that inactivates the disease agent e.g. boiled, canned or pasteurised products and ready to eat meals; and crustacean oil and crustacean meal intended for use in animal feeds commercially sterile canned products;

ii) boiled products (e.g. boiled whole shrimp or tails, lobsters, crabs);

iii) chemically extracted chitin;

- ~~iv)~~ crustacean meals or by products made non-infectious by heating or drying (e.g. flame dried or sun dried);
 - ~~iii)~~ crustacean products made non-infectious through processing as dry feeds (e.g. pelleted or extruded feeds);
 - ~~iv)~~ biological samples preserved for diagnostic applications in such a manner as to inactivate the disease agent ~~IHHNV~~ (e.g. formalin or alcohol preserved samples).
- b) The following products destined for human consumption from species referred to in Article 2.3.6.2 which have been prepared and packaged for direct retail trade in such a way as to minimise the likelihood of alternative uses:
- i) chemically preserved products (e.g. salted, pickled, marinated, pastes, etc.);
 - ~~ii) products that have been heat treated or dried (e.g. ready prepared meals) in a manner to ensure the inactivation of the pathogen.~~

For the *commodities* listed in point 1b), Member Countries should consider introducing internal measures to prevent the *commodity* being used for any purpose other than for human consumption.

2. When authorising the importation or transit of the *commodities* of a species referred to in Article 2.3.6.2., other than those listed in point 1 of Article 2.3.6.3., the *Competent Authorities* should require the conditions prescribed in Articles 2.3.6.7. to 2.3.6.11. relevant to the IHHN status of the *exporting country, zone or compartment*.
3. When considering the importation/transit from an *exporting country, zone or compartment* not declared free of IHHN of any other commodity of a species not covered in Article 2.3.6.2. but which could reasonably be expected to be a potential IHHNV carrier vector, the *Competent Authorities* should conduct a risk analysis in accordance with the recommendations in the Aquatic Code of the risk of introduction, establishment and spread of IHHNV, and the potential consequences, associated with the importation of the commodity prior to a decision. The *exporting country* should be informed of the outcome of this assessment.

Article 2.3.6.4.

Infectious hypodermal and haematopoietic necrosis free country

A country may make a *self-declaration of freedom* from IHHN if it meets the conditions in points 1, 2, 3 or 4 below.

If a country shares a *zone* with one or more other countries, it can only make a *self-declaration of freedom* from IHHN if all the areas covered by the shared water are declared IHHN free countries or *zones* (see Article 2.3.6.5.).

1. A country where none of the *susceptible species* referred to in Article 2.3.6.2. is present

may make a *self-declaration of freedom* from IHHN when *basic biosecurity conditions* have been continuously met in the country for at least the past 2 years.

OR

2. A country where the *susceptible species* referred to in Article 2.3.6.2. are present but there has never been any observed occurrence of the *disease* for at least the past 10 years despite conditions that are conducive to its clinical expression, as described in Chapter X.X.X. of the *Aquatic Manual*, may make a *self-declaration of freedom* from IHHN when *basic biosecurity conditions* have been continuously met in the country for at least the past 2 years.

OR

3. A country where the last observed occurrence of the *disease* was within the past 10 years, or where the *infection* status prior to *targeted surveillance* was unknown, for example (e.g. because of the absence of conditions conducive to its clinical expression, as described in Chapter X.X.X. of the *Aquatic Manual*). may make a *self-declaration of freedom* from IHHN when:
 - a) *basic biosecurity conditions* have been continuously met for at least the past 2 years; and
 - b) *targeted surveillance*, as described in Chapters 1.1.4. and X.X.X. of the *Aquatic Manual*, has been in place for at least the last 2 years without detection of IHHNV.

OR

4. A country that has previously made a *self-declaration of freedom* from IHHN but in which the *disease* is subsequently detected may not make a *self-declaration of freedom* from IHHN again until when the following conditions have been met:
 - a) on detection of the *disease*, the affected area was declared an *infected zone* and a *buffer zone* was established; and
 - b) infected populations have been destroyed or removed from the *infected zone* by means that minimise the risk of further spread of the *disease*, and the appropriate *disinfection* procedures (see *Aquatic Manual*) have been completed; and
 - c) *targeted surveillance*, as described in Chapters 1.1.4. and X.X.X. of the *Aquatic Manual*, has been in place for at least the past 2 years without detection of IHHNV; and
 - d) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past 2 years.

In the meantime, part of the non-affected area may be declared a free *zone* provided that they such part meets the conditions in point 3 of Article 2.3.6.5.

Article 2.3.6.5.

Infectious hypodermal and haematopoietic necrosis free zone or free compartment

A *zone* or *compartment* within the *territory* of one or more countries not declared free from IHHN may be declared free by the *Competent Authority(ies)* of the country(ies) concerned if the *zone* or *compartment* meets the conditions referred to in points 1, 2, 3 or 4 below.

If a *zone* or *compartment* extends over more than one country, it can only be declared an IHHN free *zone* or *compartment* if all the relevant *Competent Authorities* confirm that the conditions have been met.

1. A *zone* or *compartment* where none of the *susceptible species* referred to in Article 2.3.6.2. is present may be declared free from IHHN when *basic biosecurity conditions* have been continuously met in the *zone* or *compartment* for at least the past 2 years.

OR

2. A *zone* or *compartment* where the *susceptible species* referred to in Article 2.3.6.2. are present but in which there has not been any observed occurrence of the *disease* for at least the past 10 years despite conditions that are conducive to its clinical expression, as described in Chapter X.X.X. of the *Aquatic Manual*, may be declared free from IHHN when *basic biosecurity conditions* have been continuously met in the *zone* or *compartment* for at least the past 2 years.

OR

3. A *zone* or *compartment* where the last observed occurrence of the *disease* was within the past 10 years, or where the *infection* status prior to *targeted surveillance* was unknown, ~~for example~~ (e.g. because of the absence of conditions conducive to its clinical expression, as described in Chapter X.X.X. of the *Aquatic Manual*), may be declared free from IHHN when:

- a) *basic biosecurity conditions* have been continuously met for at least the past 2 years; and
- b) *targeted surveillance*, as described in Chapters 1.1.4. and X.X.X. of the *Aquatic Manual*, has been in place, through the *zone* or *compartment*, for at least the past 2 years without detection of IHHNV.

OR

4. A *zone* previously declared free from IHHN but in which the *disease* is subsequently detected may ~~not~~ be declared free from IHHN again ~~until~~ when the following conditions have been met:
 - a) on detection of the *disease*, the affected area was declared an *infected zone* and a *buffer zone* was established; and
 - b) infected populations have been destroyed or removed from the *infected zone* by

means that minimise the risk of further spread of the *disease*, and the appropriate *disinfection* procedures (see *Aquatic Manual*) have been completed; and

- c) *targeted surveillance*, as described in Chapters 1.1.4. and X.X.X. of the *Aquatic Manual*, has been in place for at least the past 2 years without detection of IHHNV; and
- d) previously existing *basic biosecurity conditions* have been reviewed and modified as necessary and have continuously been in place for at least the past 2 years.

Article 2.3.6.6.

Maintenance of free status

A country, *zone* or *compartment* that is declared free from IHHN following the provisions of points 1 or 2 of Articles 2.3.6.4. or 2.3.6.5. (as relevant) may maintain its status as IHHN free provided that *basic biosecurity conditions* are continuously maintained.

A country, *zone* or *compartment* that is declared free from IHHN following the provisions of point 3 of Articles 2.3.6.4. or 2.3.6.5. (as relevant) may discontinue *targeted surveillance* and maintain its status as IHHN free provided that conditions that are conducive to clinical expression of IHHN, as described in Chapter X.X.X. of the *Aquatic Manual*, exist, and *basic biosecurity conditions* are continuously maintained.

However, for declared free *zones* or *compartments* in infected countries and in all cases where conditions are not conducive to clinical expression of IHHN, *targeted surveillance* needs to be continued at a level determined by the *Competent Authority* on the basis of the likelihood of *infection*.

Article 2.3.6.7.

Importation of live aquatic animals from a country, zone or compartment declared free from infectious hypodermal and haematopoietic necrosis

When importing live *aquatic animals* of species referred to in Article 2.3.6.2. from a country, *zone* or *compartment* declared free from IHHN, the *Competent Authority* of the *importing country* should require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country* attesting that, on the basis of the procedures described in Articles 2.3.6.4. or 2.3.6.5. (as applicable), the place of production of the *commodity* ~~consignment~~ is a country, *zone* or *compartment* declared free from IHHN.

The *certificate* should be in accordance with the Model Certificate in Appendix 4.1.3.

This Article does not apply to *commodities* listed in point 1 of Article 2.3.6.3.

Article 2.3.6.8.

Importation of live aquatic animals for aquaculture from a country, zone or compartment not declared free from infectious hypodermal and haematopoietic necrosis

1. When importing, for *aquaculture*, live *aquatic animals* of species referred to in Article 2.3.6.2. from a country, *zone* or *compartment* not declared free from IHHN, the *Competent Authority* of the *importing country* should assess the *risk* and, if justified, apply the following risk mitigation measures such as:
 - a) the direct delivery into and lifelong holding of the consignment in biosecure quarantine facilities for;
 - ~~b) the continuous isolation of the imported live *aquatic animals* and their first generation progeny from the local environment; and~~
 - e)b) the treatment of all effluent and waste materials from the processing in a manner that ensures inactivation of IHHNV.
2. If the intention of the introduction is the establishment of a new stock genetic lines, international standards, such as the Guidelines Code of Practice on the Introductions and Transfers of Marine Organisms of the International Council for the Exploration of the Seas (ICES), should be followed.
3. For the purposes of the *Aquatic Code*, the ICES Guidelines Code may be summarised to the following main points:
 - a) identify stock of interest (cultured or wild) in its current location;
 - b) evaluate stock health/*disease* history;
 - c) take and test samples for IHHNV, pests and general health/*disease* status;
 - d) import and quarantine in a secure facility a founder (F-0) population;
 - e) produce F-1 generation from the F-0 stock in *quarantine*;
 - f) culture F-1 stock and at critical times in its development (life cycle) sample and test for IHHNV and perform general examinations for pests and general health/*disease* status;
 - g) if IHHNV is not detected, pests are not present, and the general health/*disease* status of the stock is considered to meet the *basic biosecurity conditions* of the *importing country, zone* or *compartment*, the F-1 stock may be defined as IHHN free or specific pathogen free (SPF) for IHHNV;

- h) release SPF F-1 stock from *quarantine* for *aquaculture* or stocking purposes in the country, *zone* or *compartment*.

This Article does not apply to *commodities* listed in point 1 of Article 2.3.6.3.

Article 2.3.6.9.

Importation of live aquatic animals for human consumption from a country, zone or compartment not declared free from infectious hypodermal and haematopoietic necrosis

When importing, for human consumption, live *aquatic animals* of species referred to in Article 2.3.6.2. from a country, *zone* or *compartment* not declared free from IHHN, the *Competent Authority* of the *importing country* should **assess the risk and, if justified,** require that:

1. the consignment be delivered directly to and held in isolation until consumption; and
2. all effluent, dead *aquatic animals* and waste materials from the processing be treated in a manner that ensures inactivation of IHHNV.

Member Countries should consider introducing internal measures to prevent such *commodities* being used for any purpose other than for human consumption.

This Article does not apply to *commodities* listed in point 1 of Article 2.3.6.3.

Article 2.3.6.10.

Importation of aquatic animal products from a country, zone or compartment declared free from infectious hypodermal and haematopoietic necrosis

When importing *aquatic animal products* of species referred to in Article 2.3.6.2. from a country, *zone* or *compartment* declared free from IHHN, the *Competent Authority* of the *importing country* should require an *international aquatic animal health certificate* issued by the *Competent Authority* of the *exporting country* or a *certifying official* approved by the *importing country* attesting that, on the basis of the procedures described in Articles 2.3.6.4. or 2.3.6.5. (as applicable), the place of production of the consignment is a country, *zone* or *compartment* declared free from IHHN.

The *certificate* should be in accordance with the Model Certificate in Appendix 4.2.2.

This Article does not apply to *commodities* listed in point 1 of Article 2.3.6.3.

Article 2.3.6.11.

Importation of aquatic animal products from a country, zone or compartment not declared free from infectious hypodermal and haematopoietic necrosis

When importing *aquatic animal products* of species referred to in Article 2.3.6.2. from a country, *zone* or *compartment* not declared free from IHHN, the *Competent Authority* of the *importing country* should assess the risk and apply appropriate risk mitigation measures.

This Article does not apply to *commodities* listed in point 1 of Article 2.3.6.3.

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